UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB056NM

Site Name: Bottomland

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is nearly level to gently sloping floodplains. It is in a valley position and is subject to flooding one or more times in most years. The elevation of this site ranges from approximately 3,800 to 4,800 feet above sea level. Slopes usually range from 0 to 3 percent, but may range up to 5 percent.

This site occurs in elongated drainages that transport surface runoff from adjoining upland sites and swales*. Because of the extra water received by this site the grass is denser, stands higher and is one of the most productive sites in the resource area.

*Ephemeral or intermittent surface waters occur during most years.

Land Form:

1. Flood plain
2. Valley
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	3,800	4,800
Slope (percent)	0	5
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Occasional
Duration	Very brief	Brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	164	196
Freeze-free period (days):	190	218
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

				Period		
Station ID	290205	Location	Alamogordo Dam, NM	From: 1972	To:	2000
Station ID	293292	Location	Fort Sumner, NM	From: 01/01/14	To:	2000
Station ID	297254	Location	Ramon 8SW, NM	From: 03/04/57	To:	122/31/01
Station ID	298596	Location	Sumner Lake. NM	From: 01/0121	To:	12/31/01
Station ID	299851	Location	Yeso, NM	From: 01/01/48	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These soils are moderately well to well drained deep soils. Surface textures are loamy sand, sandy loam, loam, silt loam, silty loam and clay loam. The texture of the subsurface horizons ranges from highly stratified sand, sand and gravel and medium textured soils to clay. Permeability is rapid to slow. Available water-holding capacity is moderate to high. Effective rooting depth is generally more than 60 inches. Air-water relationship is favorable for plant growth.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam
2. Silty loam
3. Silty clay loam
4. Clay
5. Very fine sandy loam
6. Loamy fine sand
7. Loam

Surface Texture Modifier:

1. N/A
2.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Moderately well	Well
Permeability Class:	Impermeable	Moderately rapid
Depth (inches):	60	>72
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.4	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a grassland dominated by warm-season tall and mid-grasses. Cool-season grasses, forbs and shrub species make up a minor portion of the plant community.
*In the high range of the precipitation.
**In areas where mesquite has invaded the potential plant community should include this species.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	3 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	45
Bare ground	22
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	1,440	3,060	4,680
Forb	96	204	312
Tree/Shrub/Vine	64	136	208
Lichen			
Moss			
Microbiotic Crusts			
Total	1,600	3,400	5,200

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SPWR	Giant Sacaton	680 – 850	680 – 850
2	SPAI	Alkali Sacaton	680 – 850	680 – 850
3	PAOB	Vine-mesquite	510 – 612	510 – 612
4	BOGR2	Blue Grama	170 – 272	170 – 272
5	PLJA PLMU3	Galleta Tobosa	170 – 272	170 – 272
6	DICA8	Arizona Cottontop	170 – 272	170 – 272
8	BOCU	Sideoats Grama	170 – 272	170 – 272
9	PASM	Western Wheatgrass*	136 – 238	136 – 238
10	BOBA3 BOSA	Cane Bluestem Silver Bluestem	0 – 68	0 – 68
11	DISP	Desert (Inland) Saltgrass	0 – 68	0 – 68
12	MURI MURE MUAS	Mat Muhly Creeping Muhly Alkali Muhly	0 – 68	0 – 68
13	BUDA ARIST MUTO	Buffalograss Threeawn spp. Ring Muhly	0 – 68	0 – 68

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	SPHAE	Globemallow spp.	34 – 102	34 – 102
15	AMBR	Ragweed spp.	0 – 68	0 – 68
16	CINE	New Mexico Thistle	0 – 68	0 – 68
17	SORO	Buffalobur	0 – 34	0 – 34
18	VEPO4	Verbena	0 – 34	0 – 34
19	HEAN3	Annual Sunflower	0 – 34	0 – 34
20	2FP	Other Perennial Forbs	68 – 136	68 – 136
21	2FA	Other Annual Forbs	68 – 136	68 – 136

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
22	ATCA2	Fourwing Saltbush	68 – 136	68 – 136
23	OPPO	Plains Pricklypear Cactus	0 – 34	0 – 34
24	PRGL2	Mesquite (honey)	0 – 68	0 – 68
25	BASA4	Seepwillow	0 – 68	0 – 68
26	OPSP	Cholla Cactus	0 – 34	0 – 34
27	GUSA2	Broom Snakeweed	0 – 34	0 – 34
28	FAPA	Apacheplume	0 – 34	0 – 34

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID **4006NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Warm-season tall and mid-grass grassland with minor components of forbs and shrubs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by striped skunk, black-tailed jackrabbit, plains pocket gopher, meadowlark, red-winged blackbird, woodhouse toad, great plains skunk and chorus frog.

With riparian tree and shrub vegetation, breeding birds include the ferrugimons and sparrow hawk, mourning dove, western kingbird and magpie.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Guadalupe	B
La Lande	B
Lacita	B
Manzano	D
Minneosa	B
Minor Components	B
Montoya	D
San Jose	B
Spur	B
Vernon	D

Recreational Uses:

This site provides limited recreation potential due to the dense plant growth and it is subject to flooding. Hunting is fair for rabbits and small game birds.

Wood Products:

This site produces no wood products.

Other Products:

Grazing:

This site can be grazed any season of the year by all classes and kinds of livestock. Because of the coarse forage produced by giant sacaton and alkali sacaton, cows and horses may be best suited. Yearling steers utilize forage well in the late spring, early summer before these species start to mature. To utilize this site more efficiently, livestock should be concentrated into small pastures before forage matures. Site remains most productive when it is hayed in late summer. This site can be burned (when approved by State Forestry Department) when litter becomes too dense. Burning will control undesirable plants and make forage more available. Continuous grazing or grazing continually during the period from April through October will result in a deteriorated plant community of ring muhly, broom snakeweed, blue grama and galleta. A loss of plant cover will cause channeling of the water and the productivity of the site is greatly reduced. Once channeled, the site will resemble a dryer upland site. Mesquite will easily invade under deteriorated conditions. A system of deferred grazing which varies the season of grazing and rest during successive years, results in a healthy highly productive site. Winter rest will benefit fourwing saltbush. Spring rest (April-June) benefits western wheatgrass and allows giant sacaton and alkali sacaton sufficient time to green-up. Summer rest will benefit giant sacaton, alkali sacaton, vine-mesquite and sideoats grama. Summer rest will also allow western wheatgrass to complete its growth cycle. Fall rest will allow the warm-season plants to complete their growth cycle. Approximately 95 percent of the annual yield are from species that furnish forage for grazing animals.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	0.5 – 2.5
75 – 51	0.7 – 5.1
50 – 26	2.4 – 6.0
25 – 0	6.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Cottontop	Digitaria californica	EP	U	U	U	U	U	U	P	P	D	U	U	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Annual Buckwheat	Eriogonum annuum	EP	U	U	D	D	D	D	D	D	U	U	U	U

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Annual Buckwheat	Eriogonum annuum	EP	U	U	D	D	D	D	D	D	U	U	U	U
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **De Baca, Guadalupe, Quay, San Miguel**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves

Characteristic Soils Are:	
Guadalupe, La Lande, Lacita, Manzano	Minneosa, Montoya, San Jose, Spur, Vernon

Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	11/20/02	George Chavez	2/11/03